Prolapsed Nictitans Gland in Dogs: Comprehensive Overview for Veterinary Surgeons

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Introduction

Commonly known as "cherry eye“.

Today we will explore:

- Anatomy
- Pathophysiology
- Diagnostic approaches
- Treatment modalities
- Potential complications
- Conclusion

Anatomy and Pathophysiology

Nictitans Gland Function

The nictitans gland, is housed within the third eyelid. It plays a pivotal role in **production** and **ocular lubrication,** contributing to the maintenance of **ocular health**.

Anatomy and Pathophysiology

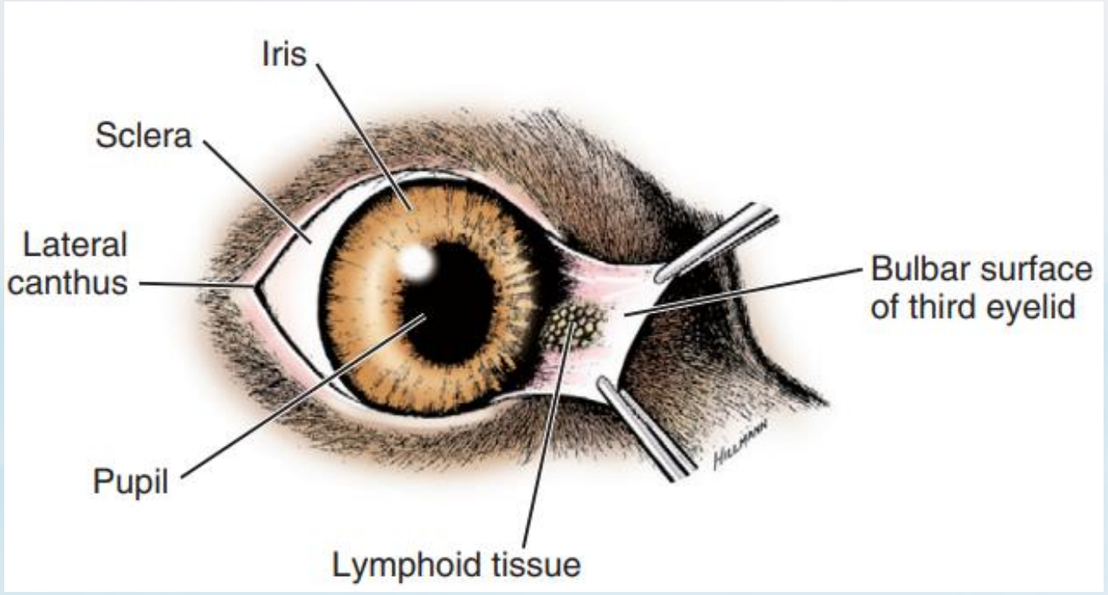
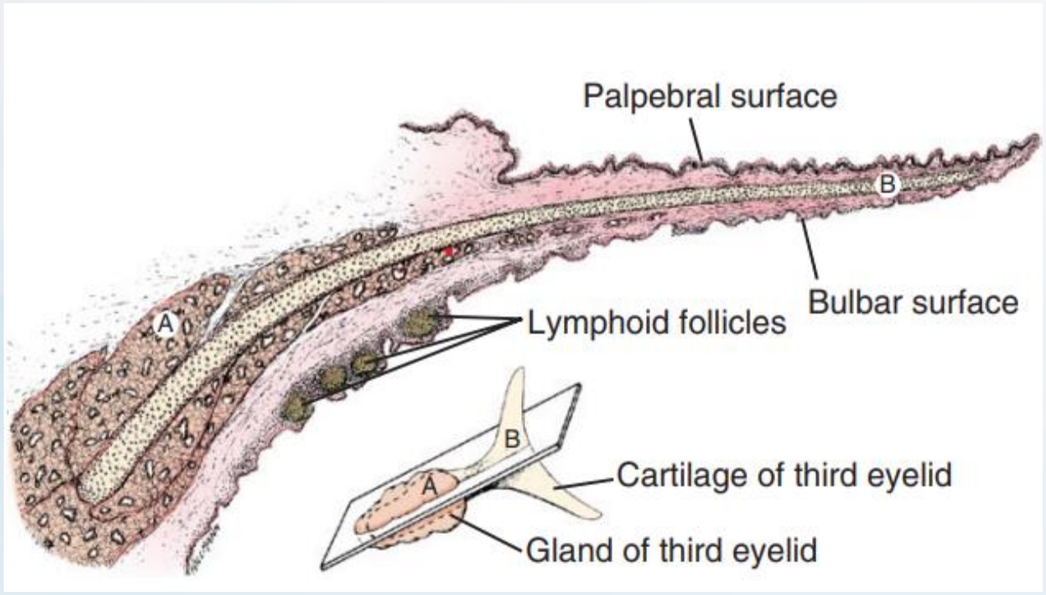


Diagram of the third eyelid manually everted to show normal lymphoid follicles on the bulbar surface. Slatter's Fundamentals of Veterinary Ophthalmology; David J. Maggs, Paul E. Miller, Ron Ofri; 3rd eyelid; 159 (Modified from Evans HE: Miller's Anatomy of the Dog, ed 3, Philadelphia, 1993, Saunders.)



Transverse section of the third eyelid. A, Gland of the third eyelid. B, Cartilage of the third eyelid. Slatter's Fundamentals of Veterinary Ophthalmology; David J. Maggs, Paul E. Miller, Ron Ofri; 3rd eyelid; 159 (Modified from Evans HE: Miller's Anatomy of the Dog, ed 3, Philadelphia, 1993, Saunders.)

Anatomy and Pathophysiology

Causes

- Remain poorly understood
- Due to a combination of **lymphoid hyperplasia** and **laxity of the retinaculum** that should attach the third eyelid to the periorbita. [1]
- The lymphoid hyperplasia is evident as overt **follicles** on the bulbar surface of the gland[1]
- Seen especially in young animals exposed exposed to environmental antigens for the for the first time.[1]
- Retinacular laxity appears to be a **conformational predisposition** in **genetically predisposed dogs** such as **brachycephalic** animals.[1]

Predisposed Breeds

- English Buldog
- Great Dane
- Neapolitan Mastiff
- English and American Cocker Spaniels
- Lhasa Apso
- Shih Tsu
- Pekingese

Presentation

- A few months old – Bulldogs
- 6-9 months – larger breeds

Eye examination

1

Examination

- Ophthalmic examination of both eyes
- STT both eyes
- Fluorescein stain
- Intraocular examination
- Examination under local anaesthesia

Diagnosis and Evaluation

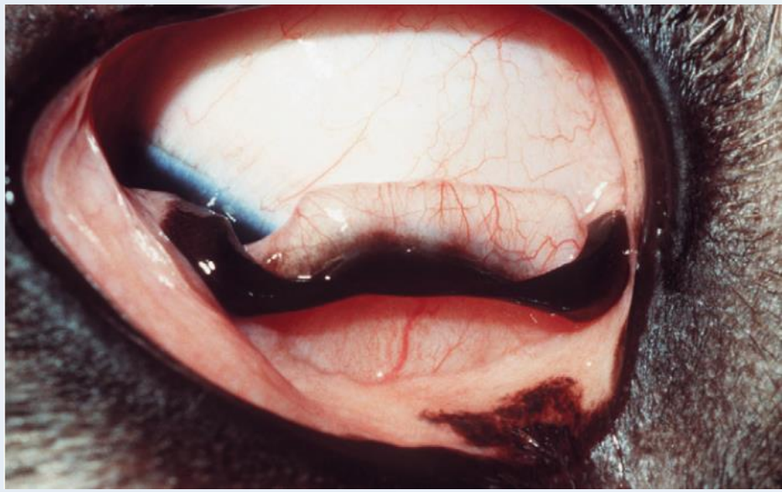
2 Visual Identification

- Clinical diagnosis of prolapsed nictitans gland typically involves visual identification of a pink **glandular mass within the medial canthus of the affected eye.**

3 Clinical signs

- Slight serous discharge
- No overt blepharospasm
- May see kinking or scrolling of of the cartilage
- Mild conjunctival hyperaemia

Slatter's Fundamentals of Veterinary Ophthalmology; David J. Maggs, Paul E. Miller, Ron Ofri; 3rd eyelid; 159



Slatter's Fundamentals of Veterinary Ophthalmology; David J. Maggs, Paul E. Miller, Ron Ofri; 3rd eyelid; 161

Differential diagnosis

- Prolapse of nictitans gland
- Scrolled cartilage of the nictitans membrane
- Chronic Superficial Keratitis
- Neoplasia
- Nictitans cyst

Differential diagnosis

Chronic Superficial Keratitis in Dogs (Pannus); Clinicians Brief;
Anja Welihozkiy, DVM, DACVO, BluePearl Veterinary Partners, Sarasota, Florida

Differential diagnosis

Adenocarcinoma of the third eyelid gland in a dog

Slatter's Fundamentals of Veterinary Ophthalmology; David J. Maggs, Paul E. Miller, Ron Ofri; 3rd eyelid; 161-163

Medical management

- Not long term
- If the gland becomes hypertrophied and inflamed
- Then start treatment with topical steroid (contraindicated if corneal ulcer)
- May add systemic NSAID
- Will help reduce the gland and help in the surgery
- Please use topical antibiotic or if required systemic antibiotic if there is a 2ndry bacterial infection
- Do not use topical steroids post-surgery

Surgical Techniques

1

Gland Replacement

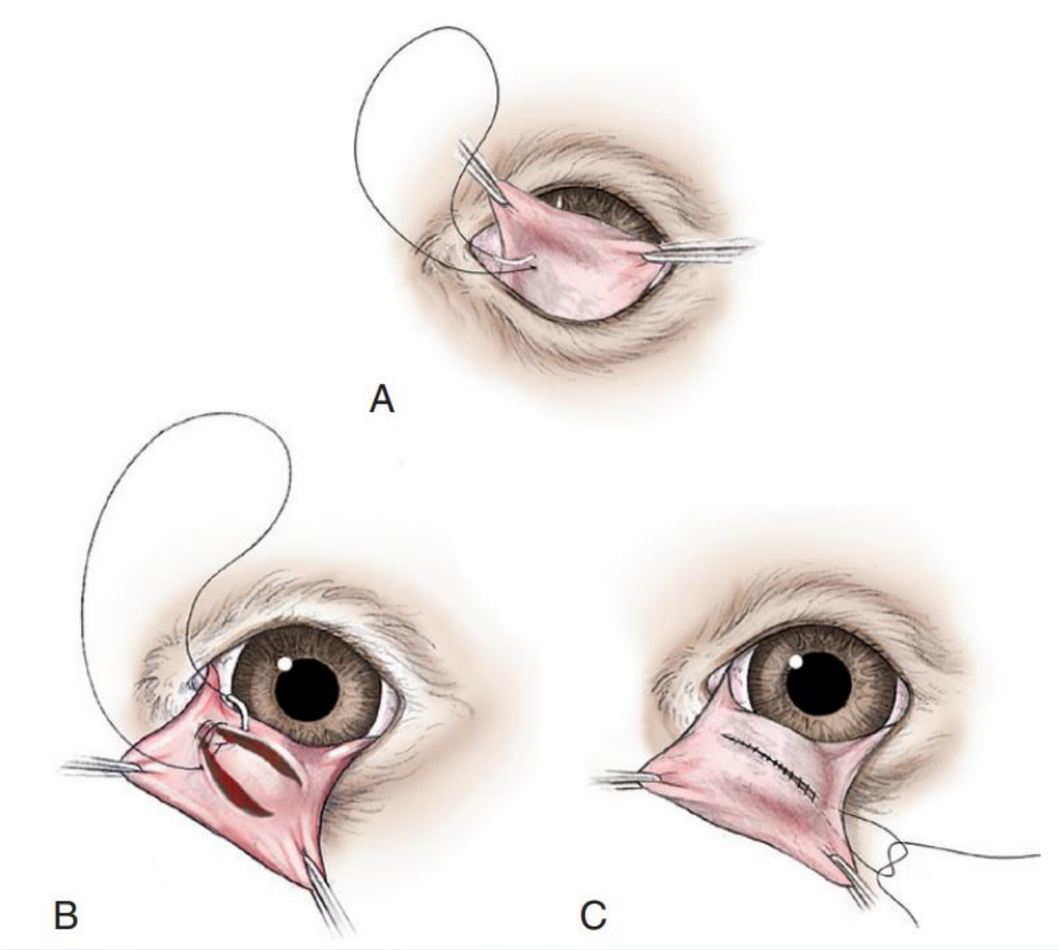
Gland replacement, also referred to as "**pocket technique”** involves repositioning the repositioning the prolapsed gland into its anatomical location within the third eyelid, eyelid, followed by securing it in place to prevent recurrence.

2

Gland Anchoring

Gland anchoring entails securing the prolapsed gland in its normal position within the third eyelid using a suture.

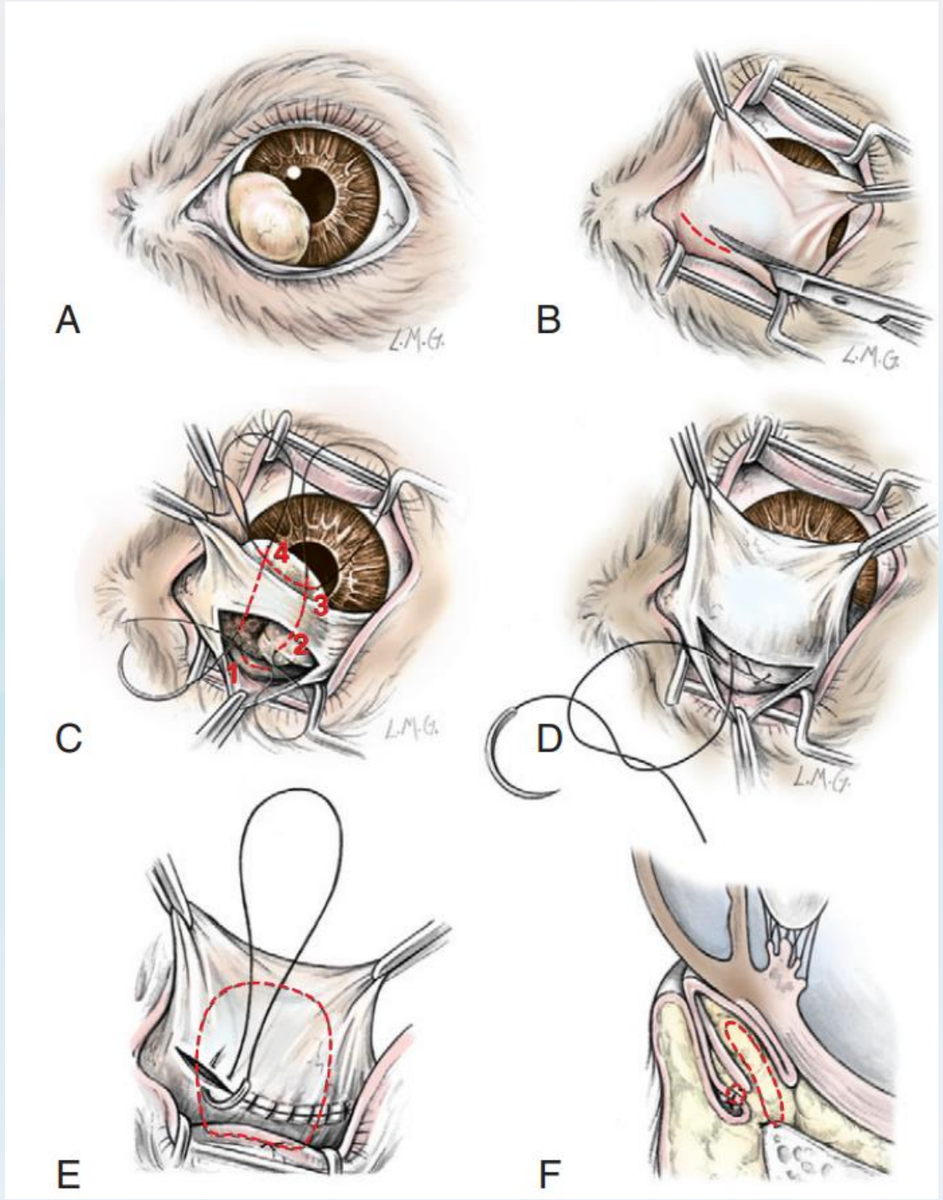
Pocket Technique



Modification of **Morgan's conjunctival pocket technique**. **A**, A 5/0 to 7/0 polyglactin 910 (Vicryl) suture is anchored to the **anterior face** of the third eyelid and then passed through to the bulbar surface.
B, **Two small crescent-shaped sections** of conjunctiva on the bulbar surface of the third eyelid just outside the dorsal and ventral edges of the prolapsed gland are **resected** so as to expose subconjunctiva. The outer (free) edges of conjunctiva created by these incisions are then apposed using the Vicryl suture in a simple continuous pattern so as to create a "pocket" over the prolapsed gland.
C, Following complete coverage and reduction of the prolapsed gland, the suture is passed back through to the **anterior face** and anchored there in a similar manner to that used at the start of the suture line

Slatter's Fundamentals of Veterinary Ophthalmology; David J. Maggs, Paul E. Miller, Ron Ofri; 3rd eyelid; 161

Gland Anchoring



Anchoring to the ventral orbital rim.
A, The prolapsed gland protrudes beyond the leading edge of the third eyelid.
B, Access to the orbital rim is achieved with a small incision in the **ventral conjunctival fornix** at the base of the **anterior** face of the third eyelid. **C**, A **2/0 nylon** suture is anchored along the **orbital fascia** immediately adjacent to and parallel with the orbital rim (1), passed up through the **lateral** side of the exposed gland (2), across the **dorsal aspect** of the gland (3), and down through the **medial** side of the gland (4) to reemerge opposite the origin of the initial bite (1). **D**, The nylon suture is tied using a surgeon's knot and with sufficient tension to reduce the prolapsed gland. **E**, The conjunctival incision is closed with 6/0 or 7/0 polyglactin 910 (Vicryl) using a simple continuous pattern.
The dotted line represents the buried nylon suture. **F**, Cross-sectional view showing the position of the nylon anchoring suture in the reduced gland and the polyglactin 910 conjunctival closure in the ventral conjunctival fornix

Slatter's Fundamentals of Veterinary Ophthalmology; David J. Maggs, Paul E. Miller, Ron Ofri; 3rd eyelid; 161

Postoperative Care and Complications

Post op medical treatment

- Elizabethan collar
- Topical antibiotic
- Pain relief
- **Do NOT use topical steroid drops**

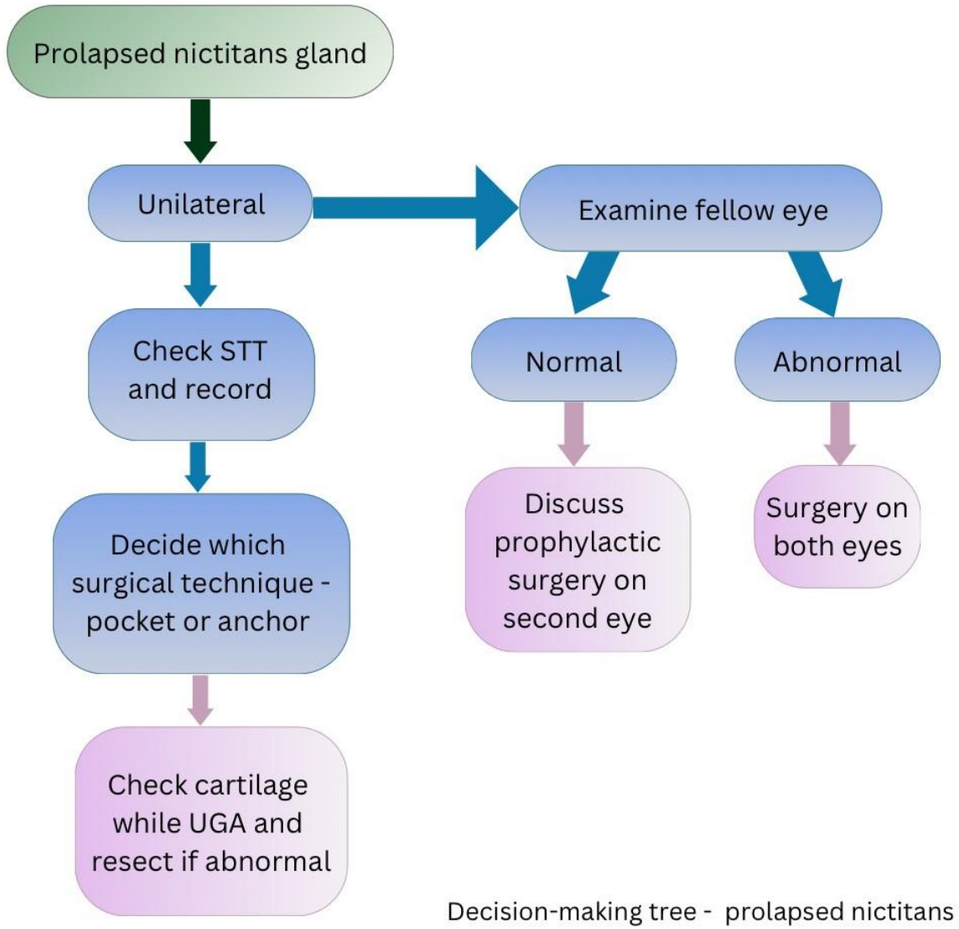
Complications and prognosis

- **Anchor technique:**
- Entropion
- Restriction movements by the nictitans
- Reprolapse gland
- Surgical swelling and infection

Complications and prognosis

Pocket technique:
Reprolapse gland
Infection and or swelling

Decision- Making Tree



Decision-making tree - prolapsed nictitans gland. UGA = under general anaesthesia.

Saunders Solutions in Veterinary Practice; Small Animal Ophthalmology; Sally M. Turner; 2008; 50-57

Conclusion

1

Ophthalmic examination and diagnosis

2

Choose surgical procedure and post-op care

Never remove the gland

Reference

1. Slatter’s Fundamentals of Veterinary Ophthalmology; David J. Maggs, Paul E. Miller, Ron Ofri; 3rd eyelid; Ofri; 3rd eyelid; 161-162
2. Saunders Solutions in Veterinary Practice; Small Animal Ophthalmology; Sally M. Turner; 2008; 50- 57
3. Small Animal Ophthalmic Surgery;BH; Kirk N. Gelatt; Janice P. Gelatt; 2001; 166-172

Any Questions